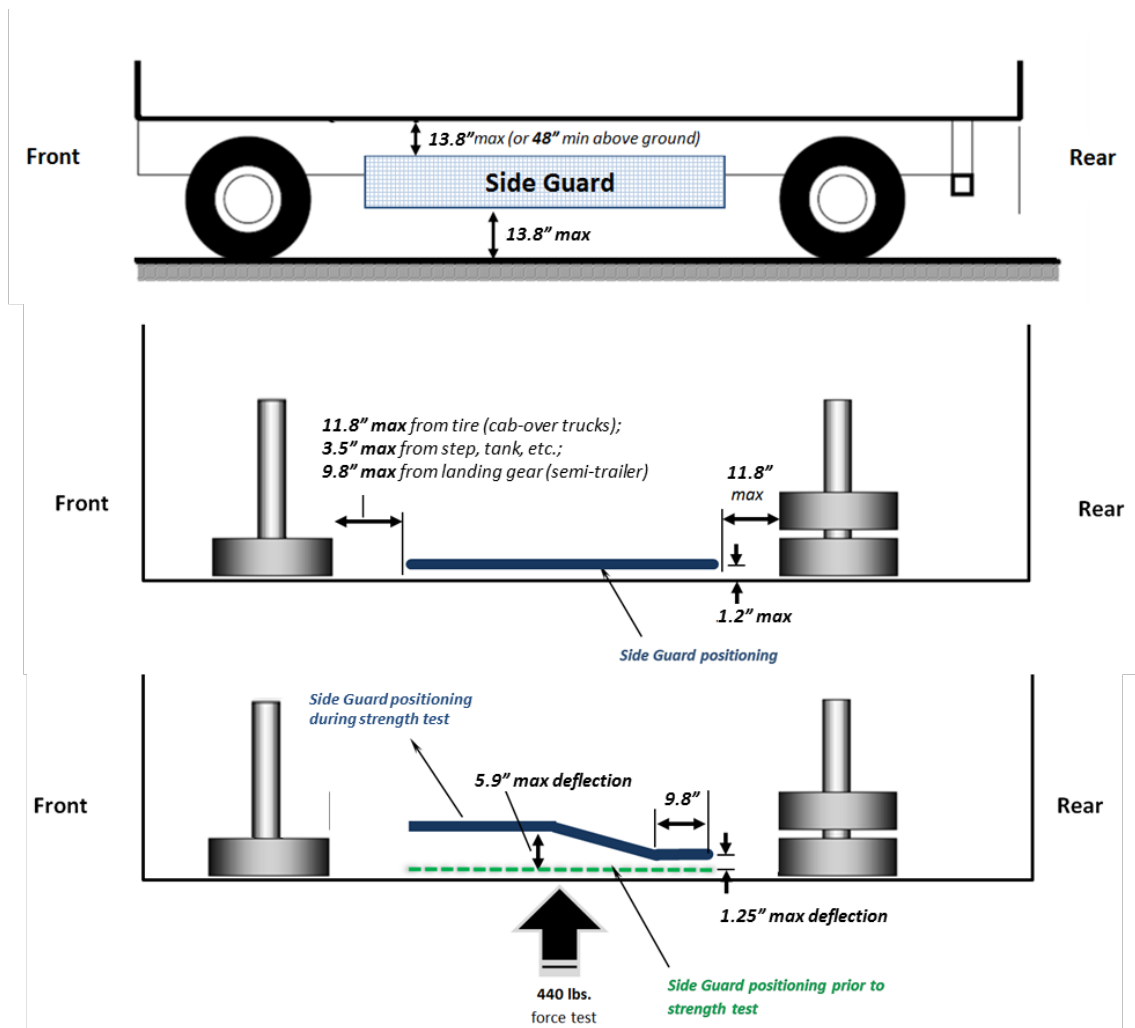


# Truck Side Guard Specifications

## Recommended Standard DOT-VNTSC-OSTR-16-05

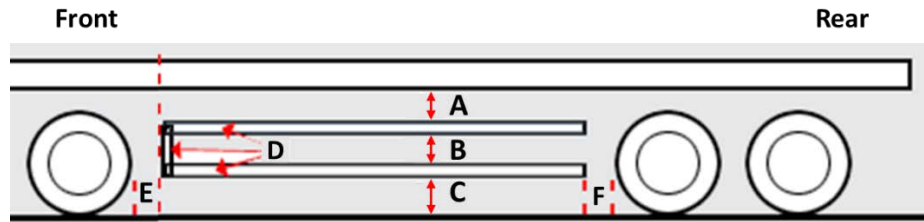
This document is intended to be used by (1) public or private medium/heavy-duty truck fleets considering adding side guards; (2) jurisdictions or customers that require side guards through policy or procurement; (3) manufacturers of side guards; and (4) truck manufacturers and dealers.<sup>1</sup> The specifications below are based on previously published Volpe recommendations (Reports [DOT-VNTSC-DCAS-14-01](#) and [DOT-VNTSC-SFMTA-16-01](#)) and may be referred to as the “Volpe side guard standard” or “Volpe side guard specifications.” This standard can be used as a basis for design, production, testing, review, and procurement of side guards and side-guard-equipped vehicles.

### I. Dimensional and strength specifications



A side guard meets the strength requirement if it is capable of withstanding **440 pounds** of force applied perpendicularly to any part of its surface by the center of a flat, circular plate of diameter no greater than **8.7 inches**, such that the deflection of the loaded side guard measured at the center of the plate does not exceed (1) **5.9 inches** anywhere, or (2) **1.25 inches** in the rearmost **9.8 inches**. A manufacturer may also demonstrate compliance using a valid engineering calculation, such as finite element analysis.<sup>2</sup>

## 2. Additional dimensional specifications for rail-style side guards



<b>A</b>	<b>13.8 inches max</b>
<b>B</b>	<b>11.8 inches max</b>
<b>C</b>	<b>13.8 inches max</b>
<b>D</b>	<b>4.0 inches min</b>
<b>E</b>	<b>11.8 / 3.5 inches max*</b>
<b>F</b>	<b>11.8 inches max</b>

\*The gap between the side guard's leading edge and the wheel, wheel arch, or other permanent vehicle structure should not exceed **11.8 inches**. A **turned-in vertical bar** connecting the forward ends of the horizontal rails should be incorporated if the forward gap exceeds **3.5 inches**. The bar need not be turned in or can be omitted if the distance is less than 3.5 inches.

## 3. Vehicle weight threshold and flexibility of design

Side underride protection should be included on **Class 3** and above vehicles, which have a gross vehicle weight rating (GVWR) of **10,000 pounds** and higher.

Acceptable side underride protection can be provided by **any combination** of vehicle body, fuel tanks, tag axles, tool boxes, or purpose-built side guards comprising a smooth surface flush with the vehicle sidewall, meeting the Volpe dimensional and strength specifications set forth above.



Graphic adapted from U.S. Department of Energy

<sup>1</sup> This document was prepared for the Office of the Assistant Secretary of Research and Technology.

<sup>2</sup> A third option for demonstrating strength compliance is type approval by the United Kingdom Department for Transport [Vehicle Certification Agency](#) or other recognized side guard homologation with equal or greater stringency. A side guard with such type approval that also meets the Volpe dimensional criteria may be considered to meet the Volpe standard.